

REMARKS

Applicant would like to thank the examiner for the indication that claims 52-54 and 66-68 contain allowable subject matter. Applicant requests that claims 69, 70, 76, 77, and 98-100 be canceled, without prejudice.

Drawings

The Patent Office objected to the drawings under 37 C.F.R. § 1.83(a) for not showing every feature of the invention specified in the claims. More specifically, the Patent Office objected to the drawings because the pump connected inline to the conduit downstream said valve outlet as recited in claim 69 must be shown in the drawings. As stated above, claim 69 has been canceled without prejudice. Thus, the objection to the drawings should be withdrawn.

Claim Rejections – 35 U.S.C. § 112

The Patent Office rejected claims 69-81 under 35 U.S.C. § 112, second paragraph, as being indefinite. More specifically, the Patent Office stated that "it is unclear what structural limitation applicant intends to cover when claim 69 calls for 'a pump connected inline to the conduit downstream said valve outlet'." As stated above, claims 69, 70, 76, and 77 have been canceled without prejudice. Further, all references to "a pump and heat exchanger" in claims 71-75 and 78-81 have been replaced with "a heat exchanger." As such, claims 71-75 and 78-81 are not indefinite, and the rejection of claims 71-75 and 78-81 for being indefinite should be withdrawn.

Claim Rejections – 35 U.S.C. § 102 (Pettazzoni)

The Patent Office rejected claims 98 and 99 under 35 U.S.C. § 102(b) as being anticipated by Pettazzoni (U.S. Patent No. 5,878,792). Claims 98-100 have been canceled without prejudice.

Claim Rejections – 35 U.S.C. § 102 (MacDowell)

The Patent Office rejected claims 69, 70, and 98-100 under 35 U.S.C. § 102(b) as being anticipated by MacDowell (U.S. Patent No. 6,174,351). As stated above, claims 69, 70, and 98-100 have been canceled without prejudice.

Applicant would like to note that throughout the Office Action the Patent Office has referred to "MacDowell et al. (6302165)." However, MacDowell is U.S. Patent No. 6,174,351. U.S. Patent No. 6,302,165 is Nanaji. Applicant has assumed that MacDowell is the reference intended by the Patent Office.

Claim Rejections – 35 U.S.C. § 103 (MacDowell and Leblanc)

The Patent Office rejected claim 71 under 35 U.S.C. § 103(a) as being unpatentable over MacDowell (U.S. Patent No. 6,174,351) in view of Leblanc (U.S. Patent No. 5,067,327). To rely on a reference under 35 U.S.C. § 103, it must be analogous art. MPEP § 2141.01(a). "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ.2d 1443, 1445 (Fed. Cir. 1992).

Leblanc discloses a refrigerant recovery and recharging device. Referring to Figure 1, Leblanc discloses a system including a refrigerant circuit compressor (18), a compressor (40), and an aluminum tank (42) cooled by a fan (82). In essence, when the refrigerant circuit is "dead" and needs recharging, the compressor (40) is activated and draws the refrigerant from the refrigerant circuit through conduit (28a) in vapor form and eventually forces the refrigerant vapor into the tank (42). The vapor is either cooled by liquid refrigerant in the tank (42) or most likely cooled to a liquid form by condensing on the walls of the tank (42), which are cooled by the fan (82). The liquid refrigerant from the tank (42) is then used by the refrigeration circuit, thereby "recharging" the refrigerant circuit.

Leblanc is clearly not in the field of Applicant's endeavor. Applicant's field of endeavor is a fuel dispensing environment capable of reducing vapor pressure in the ullage of an underground storage tank. Leblanc's field of endeavor is refrigerant recovery and recharging a refrigerant circuit. Thus, the first prong of the test for analogousness is not satisfied.

Leblanc is also not "reasonably pertinent to the particular problem with which the inventor was concerned." "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Applicant's problem was reducing vapor pressure in the ullage of an underground

storage tank. Thus, Applicant's invention is focused on reducing pressure in the ullage of the underground storage tank by cooling the vapors in the ullage. Leblanc teaches recovery of refrigerant in a refrigerant circuit and recharging the refrigerant circuit. Accordingly, Leblanc teaches cooling refrigerant vapors cool the vapors to their liquid state, thereby recharging the refrigerant circuit. Leblanc does not teach cooling the vapors for the purpose of reducing vapor pressure. Accordingly, Leblanc, which focuses of cooling refrigerant vapors into their liquid state in order to recharge a refrigerant circuit, would not have logically commended itself to an inventor's attention when considering the problem of reducing vapor pressure in the ullage of an underground storage tank in a fueling environment. Thus, the second prong of the test of "analogousness" is not satisfied.

Since Leblanc is not either "in the field of applicant's endeavor" or "reasonably pertinent to the particular problem with which the inventor was concerned," Leblanc is not analogous art. Accordingly, the rejection of claim 71 can not stand.

Claim Rejections – 35 U.S.C. § 103 (MacDowell and Hartsell, Jr.)

The Patent Office rejected claim 72 under 35 U.S.C. § 103(a) as being unpatentable over MacDowell (U.S. Patent No. 6,174,351) in view of Hartsell, Jr. (U.S. Patent No. 5,803,136). Applicant has amended claim 72 to be in independent form.

The combination of MacDowell and Hartsell fails to teach or suggest "a heat exchanger temperature sensor that measures the temperature of the vapor leaving said heat exchanger and inputs the temperature into said electronic controller." The Patent Office has conceded that MacDowell fails to disclose the claimed heat exchanger temperature sensor, and has relied solely on Hartsell to show this element.

Referring to Figure 1, Hartsell discloses a temperature sensor (29) for sensing a temperature of a catalyst (18) within a catalyst module (44). When the pressure in the ullage of the storage tank (8) exceeds a threshold, a controller (12) activates a heater (25). When the heater (25) has heated the catalyst (18) to a predetermined temperature, the valve (27) is opened, and the catalyst catalyzes volatile hydrocarbons such that the hydrocarbons are converted to water and carbon dioxide, which can be safely vented to the atmosphere. As a result, pressure in the ullage of the storage tank (8) is reduced. However, Hartsell fails to teach or suggest a heat exchanger temperature sensor that measures the temperature of the vapor leaving said heat

exchanger. Hartsell only measures the temperature of the catalyst (18) and not the temperature of vapors leaving the catalyst module (44).

The combination of Hartsell with MacDowell fails to cure this deficiency. MacDowell also fails to teach or suggest a temperature sensor to measure the temperature of vapors leaving the heat exchanger (68). Since the combination of MacDowell and Hartsell fails to teach or suggest a heat exchanger temperature sensor that measures the temperature of vapor leaving a heat exchanger, claim 72 is allowable.

Rejections – 35 U.S.C. § 103 (MacDowell and Nanaji)

The Patent Office rejected claims 73 and 75 under 35 U.S.C. § 103(a) as being unpatentable over MacDowell (U.S. Patent No. 6,174,351) in view of Nanaji (U.S. Patent No. 5,755,854). Claims 73 and 75 depend from claim 69. Thus, for at least the same reasons claim 69 is allowable, claims 73 and 75 are also allowable. However, Applicant reserves the right to address the rejections of claims 73 and 75 in the future if necessary.

Rejections – 35 U.S.C. § 103 (MacDowell and Nanaji)

The Patent Office rejected claim 74 under 35 U.S.C. § 103(a) as being unpatentable over MacDowell (U.S. Patent No. 6,174,351) in view of Nanaji (U.S. Patent No. 6,302,165). Claim 74 depends from claim 69. Thus, for at least the same reasons claim 69 is allowable, claim 74 is also allowable. However, Applicant reserves the right to address the rejection of claim 74 in the future if necessary.

Rejections – 35 U.S.C. § 103 (MacDowell and Nanaji)

The Patent Office rejected claims 76-78 under 35 U.S.C. § 103(a) as being unpatentable over MacDowell (U.S. Patent No. 6,174,351) in view of Nanaji (U.S. Patent No. 5,843,212). Applicant has amended claim 78 to be independent form such that it includes the subject matter of original claims 69, 76, 77, and 78. As stated above, claims 76 and 77 have been canceled without prejudice.

Regarding amended claim 78, the combination of MacDowell and Nanaji fails to teach or suggest an electronic controller that opens a valve and activates a pump and a heat exchanger if the storage tank pressure is greater than a predetermined pressure threshold. MacDowell

discloses a heat exchanger (68, Figure 2) and a controller (46, Figure 1). While MacDowell teaches controlling a motor (36, Figure 1) which drives the pressure pump (32) and the vacuum pump (34), MacDowell fails to teach or suggest that that the controller (46) controls the heat exchanger (68). More specifically, MacDowell fails to teach that the controller (68) can either activate or deactivate the heat exchanger (68). Thus, as best can be understood, the heat exchanger (68) is always activated.

The combination of MacDowell with Nanaji fails to correct this deficiency. While Nanaji discloses an electronic controller (12), Nanaji fails to teach or suggest that the electronic controller (12) controls a heat exchanger. Thus, Nanaji also fails to teach or suggest an electronic controller that opens a valve and activates a pump and a heat exchanger if the storage tank pressure is greater than a predetermined pressure threshold. As such, claim 78 is allowable.

Claims 101-111

The Patent Office stated that method claimed by claims 101-111 would be inherent in the normal use and operation of the modified MacDowell reference, as discussed in previous rejections.

Claim 101 is a method claim similar to claim 79, and the Patent Office has indicated that claim 79 includes allowable subject matter. Specifically, claim 101 claims performing the step of passing said vapors through said heat exchanger if the temperature of the volatile liquid is less than the ambient temperature by more than a temperature preset value and if the pressure of the underground storage tank is above a pressure threshold. Thus, for at least the same reasons claim 79 is allowable, claim 101 is also allowable. However, Applicant reserves the right to further address the rejection of claim 101 in the future if necessary.

For at least the same reasons claim 101 is allowable, claim 102 is also allowable. However, Applicant reserves the right to further address the rejection of claim 102 in the future if necessary.

Claim 103 is similar to claims 101 and 79 in that it claims "performing said step of opening said valve and said step of passing the vapors if the temperature of the volatile liquid is greater than the ambient temperature by more than a preset temperature value and if the pressure of the underground storage tank is above a preset pressure threshold." Thus, claim 103 is

allowable. However, Applicant reserves the right to further address the rejection of claim 103 in the future if necessary.

For at least the same reasons claim 103 is allowable, claim 104 is also allowable. However, Applicant reserves the right to further address the rejection of claim 104 in the future if necessary.

Claims 105 has been amended to be in independent form and claims "closing said valve if the temperature of the volatile liquid is not greater than a temperature preset value." MacDowell does not disclose this step. Further, even when MacDowell is combined with the prior art of record, this deficiency is not cured. As such, claim 105 is allowable.

For at least the same reasons claim 105 is allowable, claims 106-111 are also allowable. However, Applicant reserves the right to further address the rejections of claims 106-111 in the future if necessary.

Conclusion

In view of the discussion above, claims 71-75, 78-81, and 101-111 are allowable. Reconsideration is respectfully requested. If any issues remain, the examiner is encouraged to contact the undersigned attorney of record to expedite allowance and issue.

Respectfully submitted,

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